

(No Model.)

2 Sheets—Sheet 1.

J. MOONEY.

FEEDER FOR ROLLER MILLS.

No. 326,512.

Patented Sept. 15, 1885.

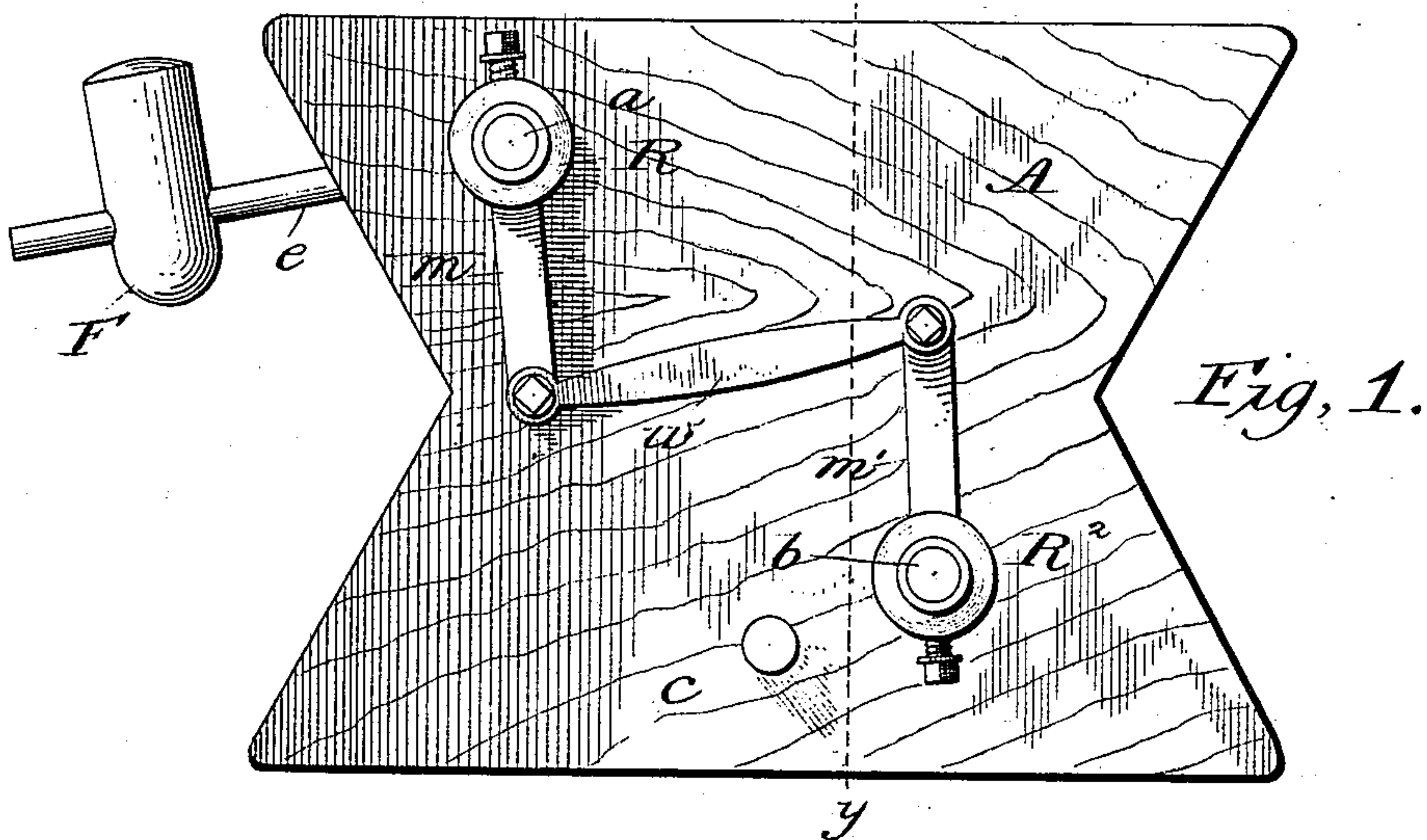
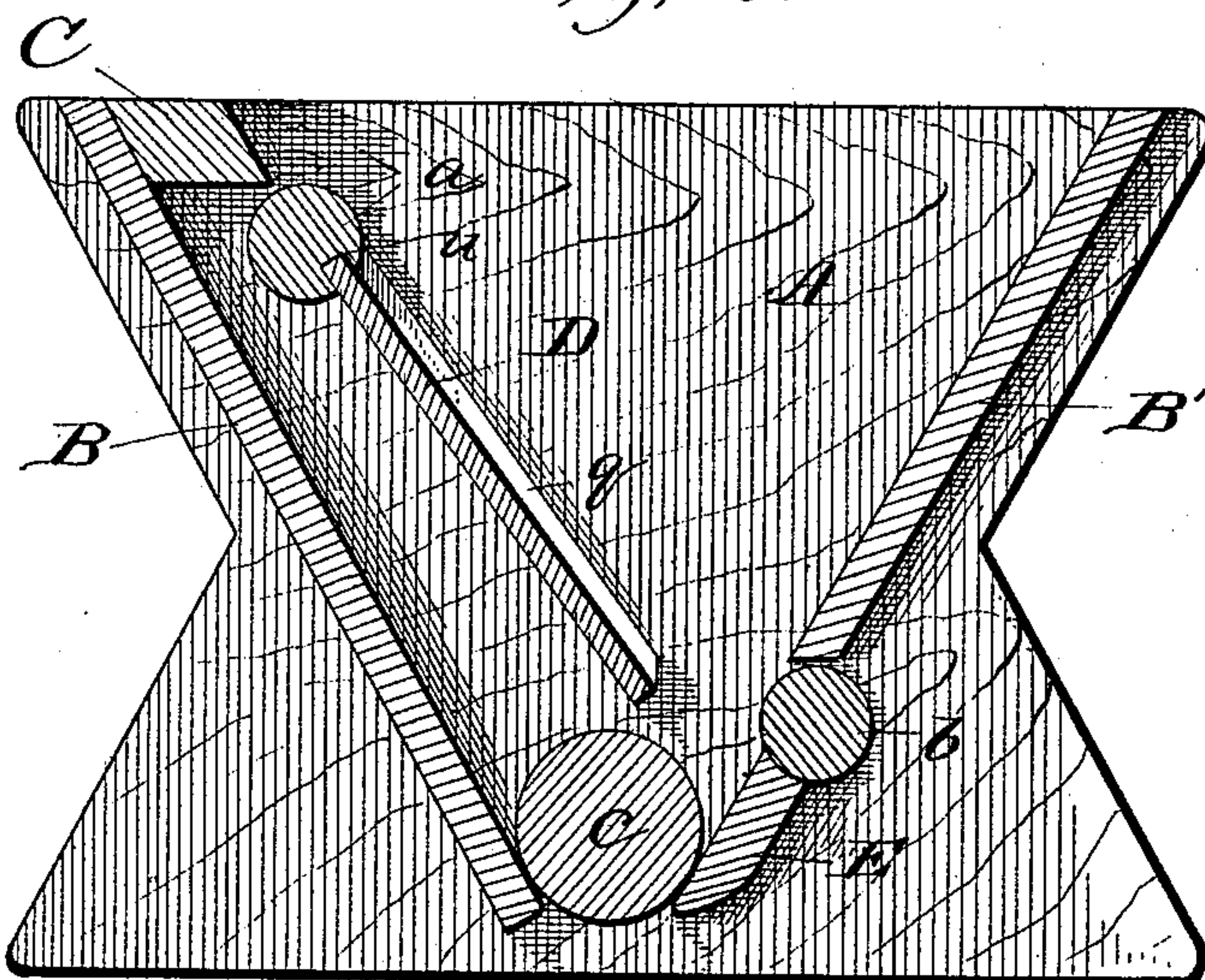


Fig. 2.



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# UNITED STATES PATENT OFFICE.

JOHN MOONEY, OF EAST SAGINAW, MICHIGAN.

## FEEDER FOR ROLLER-MILLS.

SPECIFICATION forming part of Letters Patent No. 326,512, dated September 15, 1885.

Application filed May 9, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MOONEY, of East Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Feeders for Roller-Mills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to feed-hoppers for mills; and it has for its object to improve that class of feeders in which an extra amount of grain in the hopper will put into action automatically devices to clear the hopper; and with this object in view I have constructed the devices and combinations hereinafter described, and specifically pointed out in the claim.

In the drawings, Figure 1 is an end elevation of a feeder embodying my improvements. Fig. 2 is a transverse vertical section there-through on line *xx* of Fig. 3. Fig. 3 is a longitudinal vertical section on line *yy* of Fig. 1, looking to the left, and Fig. 4 is a similar section on the same line looking to the right.

Like letters of reference mark the same parts in all the figures.

A A are the ends of the hopper, and B B' its sides. C is a guard-bar secured within the ends A, against the side B, and projecting over the upper end of the feed-regulating board D, for the purpose of preventing grain fed into the hopper from passing behind said board. The board D is suspended from its upper edge, being secured in a rectangular groove, *u*, in a shaft, *a*, journaled in and extending beyond the ends A of the hopper, its extending ends being each provided with a hub, marked, respectively, R R'. From the hub R' an arm, *e*, projects in a substantially horizontal direction, upon which is adjustably mounted a weight, F.

The hubs R R' are adjustably secured to the ends of the shaft *a* by set-screws.

Extending from the hub R downward is an arm, *m*, whose lower end is pivotally connect-

ed with a rod, *w*, similarly secured at its opposite end to an arm, *m'*, projecting upward from a hub, R<sup>2</sup>, which is adjustably secured by a set-screw upon the projecting end of another shaft, *b*, also journaled in the ends A of the hopper.

Suspended from the shaft *b* is another board, E, which forms the outlet-valve for the hopper, and being substantially in line with the side B' of the hopper forms a continuation thereof.

In the extreme lower end of the hopper, between the side B and the valve E, is located the feed-roll *c*, whose journals have bearing in the end walls, A, and project therefrom on one end to receive a pulley, P, or other suitable device by which the roll may be rotated.

The operation of my device is as follows: The grain being fed or poured into the hopper, passes down the feed-board D, being prevented from falling over the edges thereof by ledges *q*, and, dropping upon the feed-roll *c*, is carried out between the roll and the valve E, to be delivered to the rollers of the mill. Should the valve become clogged or refuse to work, the grain will bank up in the hopper until its weight upon the board D causes the lower end of that board to move toward the side B of the hopper, this action taking place when the weight of the grain is sufficient to overcome the weight F. This movement will rotate the shaft *a*, and carry the arm *m* to the left, which motion will be communicated to the arm *m'*, carrying it also to the left, rotating the shaft *b*, and moving the outer lower end of the valve E to the right and away from the feed-roller, thus increasing the capacity of the discharge-opening and quickly freeing the hopper of the excess of grain. The parts will then assume their normal positions and the regular feed go on. The adjustment of the weight F on the arm *e* nearer to the hub R' will cause a smaller amount of grain to free the hopper, and vice versa.

The construction of my device renders the occurrence of such clogging much more improbable than in devices of this class as heretofore constructed. In my construction the lower end of the valve is operated upon by the grain in a manner similar to its

action upon the board D, thus rendering the board D and the valve E co-operative in this respect. The feed-roll and valve are placed in such relation to each other, the latter lying on  
5 a tangential line to the former, that it is almost impossible for the grain to refuse to pass out. When it does pile up, however, the board will quickly act, for the reason that as soon as the grain in piling reaches above the lower end  
10 of that board there will be an immense leverage exerted to turn the shaft *a* and operate the train of mechanism to open the valve, as before described.

I am aware that devices have been constructed in which the weight of the grain automatically feeds the hopper, and I do not therefore  
15 broadly claim such device; but

What I do claim is—

A feeder for roller-mills, comprising a hopper having end walls, A, and side walls, B B',  
20

a feed-roll, C, located in the discharge-opening, a valve, E, extending downward from a shaft, *b*, journaled in the ends A, and forming a continuation of the side B' in a line tangential to the feed-roll *c*, an arm, *m'*, projecting  
25 upward from the shaft *b*, a rod, *w*, an arm projecting downward from the shaft *a*, and connected by the said rod *w* to the arm *m'*, the shaft *a*, provided with a downward-extending swinging board, D, and an arm, *e*, on said  
30 shaft carrying adjustably a weight, F, the parts being arranged and combined as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two  
35 witnesses.

JOHN MOONEY.

Witnesses:

W. H. DOWNS,  
C. A. WATROUS.